

## **Summary – October 26, 2000 Meeting on Hanford Tank Waste Treatment**

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On October 26, 2000 representatives of the Hanford Stakeholder community and two tribal nations (the Yakima Indian Nation and the Nez Pierce Tribe) met with Washington State Department of Ecology Director Tom Fitzsimmons and his staff to discuss Ecology's current approach to tank waste treatment. The purpose of the meeting was to enable the Department to present its approach to tank waste treatment issues, to exchange views on meeting the challenges associated with Ecology's approach, and to discuss whether the 1993 Tank Waste Values and Principles remain a good guide for Ecology.<sup>1</sup> The purpose of the meeting was not to reach formal consensus, and the group expressed a range of opinions and views on many tank waste treatment issues. In the course of discussing this range of views, the group also seemed to converge around a number of directions for tank waste treatment, as discussed below.<sup>2</sup>

Representatives of US EPA Region 10 and the US Department of Energy Office of River Protection attended the meeting, to hear Stakeholder and Tribal concerns first hand and to answer questions about their respective roles in tank waste treatment. Following introductions and opening remarks by Ecology, US EPA Region 10, and the US Department of Energy (DOE), there was a short summary of the 1993 Tank Waste Values and Principles and a presentation of a chronology of tank waste treatment events since 1993. Ecology Director Tom Fitzsimmons then presented the Department's current approach to tank waste treatment.

### **Presentation and Discussion of Ecology's Current Approach to Tank Waste Treatment**

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Director Fitzsimmons began by explaining that Ecology's current approach to tank waste treatment has two parts. In the first part, Ecology is focusing on vitrification of 10% of tank waste by volume (25% by activity) by 2018. In the second part, Ecology is focusing on completing treatment of all tank waste by 2028. Director Fitzsimmons drew a graph to illustrate Ecology's two-part approach to tank waste treatment.

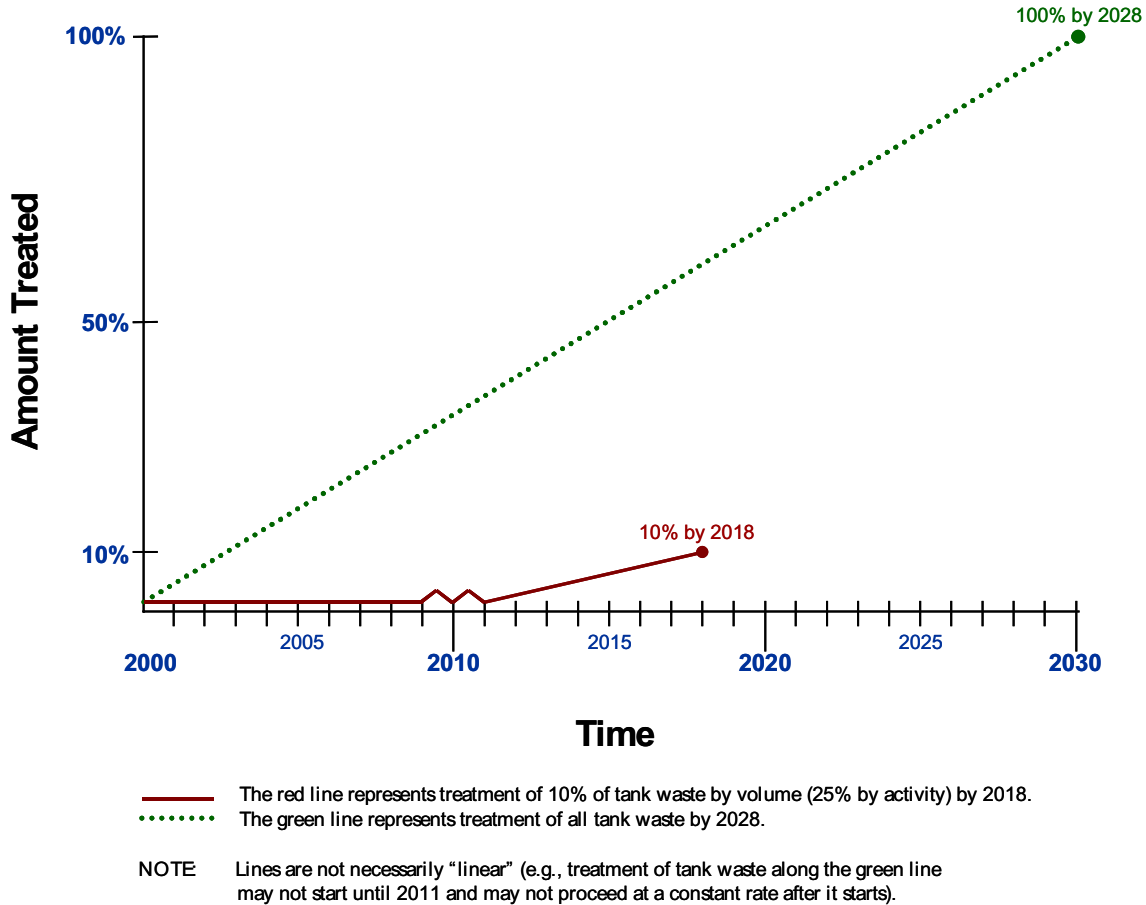
Director Fitzsimmons used red ink to illustrate the first part of Ecology's current approach to tank waste treatment. In this part of Ecology's approach, the Department plans to hold DOE accountable to vitrify at least 10% of tank waste by volume (25% by activity) by 2018. The first milestone in Ecology's approach to vitrification of 10% of tank waste by volume (25% by activity) by 2018 (or along the "red line" as it came to be known during the meeting) is for DOE to sign a new tank waste treatment contract by January 15, 2001. Ecology has proposed to add the January 15, 2001 contracting deadline to an existing consent decree on tank waste; that proposal is currently out for public review and comment. Ecology intends to establish, in a consent decree, additional interim deadlines to support the red line including deadlines for: start of construction of a treatment plant, critical construction milestones, completion of construction, start of treatment plant operations, commissioning of the treatment plant, and full operations. Finally, Ecology also intends to establish, in a consent decree, requirements for DOE to develop a plan for completing treatment of all tank waste by 2028. All these elements together make up Ecology's current red line

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<sup>1</sup> Before the meeting, staff from Ross & Associates interviewed invited stakeholders, Tribal representatives and agency officials; a summary of the main theses of these interviews is attached.

<sup>2</sup> This document is the facilitator's summary of the group's discussion and is not intended to convey a programmatically complete or legally sufficient description of issues or actions discussed. It is not intended to legally hold participants responsible for specific actions described and should not be construed as a legally binding document.

approach to hold DOE accountable to vitrify at least 10% of tank waste by volume (25% by activity) by 2018.



Director Fitzsimmons explained that Ecology intends to use consent decrees for all deadlines associated with the red line. Director Fitzsimmons emphasized that Ecology's approach to vitrification of 10% of tank waste by volume (25% by activity) by 2018 is set. While the Department is interested in discussing this part of its approach, and may consider opportunities to refine the details of the red line, it is not open to changing the fundamental elements: require vitrification of 10% of tank waste by volume (25% by activity) by 2018 and use a consent decree to establish and enforce the 10% of tank waste by volume (25% by activity) by 2018 deadline and associated interim deadlines.

Director Fitzsimmons used green ink to illustrate the second part of Ecology's current approach to tank waste treatment. In this part of Ecology's approach, the Department plans to hold DOE accountable to complete treatment of all tank waste by 2028. (2028 is the current Tri-Party Agreement deadline for completing tank waste treatment.) Director Fitzsimmons talked about the relationship between Ecology's approach to completing tank waste treatment by 2028 (or the "green line" as it came to be known) and treating 10% of tank waste by volume (25% by activity) by 2018 (the "red line"). Ecology is committed to holding DOE accountable for certain critical elements of achieving tank waste treatment: completing all treatment by 2028 (the "green line") and completing vitrification of 10% of tank waste by volume (25% by activity) by 2018 (the "red line"). Director Fitzsimmons emphasized the need, in Ecology's view, to not open the basic elements of the red line approach for renewed debate. At the same time, Ecology is interested in the range of options and views about meeting the 2028 deadline for the 90% of

tank waste that is not addressed by Ecology's approach along the red line. Ecology is also keenly interested in the range of views and options on other tank waste treatment issues. In response to questions, Director Fitzsimmons clarified that Ecology's current approach is to leave the deadline to complete treatment of tank waste by 2028, and interim milestones associated with this deadline, in the Tri-Party Agreement, until such time as experience in building and operating the initial treatment complex provides a basis for changes. At that time, it may be appropriate to use Tri-Party Agreement milestones, rather than a consent decree, to govern the balance of tank waste retrieval and treatment. Similarly, Ecology's current approach is to leave milestones and requirements associated with tank farm safety and infrastructure in the Tri-Party Agreement.

Director Fitzsimmons finished by explaining that Ecology views the need to complete treatment of Hanford tank waste as a problem that Ecology, stakeholder groups, DOE, EPA and Tribal Nations share and must work together to solve. He then asked for the group's help and insight.

The group began its conversation about Ecology's current approach to tank waste treatment by discussing the achievability and wisdom of the red line. Many in the group expressed strong frustration at the slow pace of progress towards tank waste treatment and at the many past tank waste treatment failures. Many in the group emphasized the need to make real progress towards tank waste treatment by actually vitrifying some tank waste, as soon as possible.

While they continue to believe that real progress towards getting started with tank waste vitrification is critical, some in the group do not believe that vitrification of 10% of tank waste by volume (25% by activity) by 2018 is an achievable or wise deadline. Those who do not believe the red line is achievable expressed concern over the ability to fund a vitrification plant, the ability to design and operate a vitrification plant of the proposed scale, and the viability of the current approach to pre-treatment. Those who do not believe the red line is wise expressed concern that, given their belief that the red line is not achievable, continuing on that path would guarantee another tank waste treatment failure, endangering workers and the public, further complicating funding, and delaying remediation of tank farms.

Director Fitzsimmons challenged those who expressed concern about the red line to suggest alternatives for discussion. Some suggested an alternative that would involve a much smaller vitrification plant (or groups of small vitrification systems) and, perhaps, different types of vitrification systems to get started with treatment more quickly, but on a smaller scale. Director Fitzsimmons asked how this "start small" alternative would relate to the 2018 and 2028 deadlines and to DOE's current contracting approach.<sup>3</sup> The group acknowledged that "starting small" would likely mean missing both the 2018 and 2028 deadlines and re-evaluating DOE's contracting approach; however, there were some who continued to emphasize that this would be preferable to staying on a path which they believe will fail. Some observed that even if only 1% of tank waste were vitrified by 2018 that would still amount to the largest vitrification effort ever.

Some stakeholders who expressed concerns about the red line also talked about the possibility of changing the approach to pre-treatment to eliminate separation into low- and high-activity waste fractions, indicating that it seems unlikely that treated Hanford tank waste will ever be sent to a National Repository. The group acknowledged the difficulty that the current Nuclear Waste Policy Act seems to

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<sup>3</sup> DOE's current contracting approach is based on the British Nuclear Fuels Ltd. design package, which in turn is based on a pretreatment system to separate low- from high-activity waste, two large capacity joule-heated melters for low-activity waste, and one large capacity joule-heated melter for high-activity waste. The large capacity of the melters is dictated by the relationship of the date DOE expects to begin full-scale vitrification (currently 2011) to the deadline to complete vitrification of 10% of tank waste by volume (25% by activity) by 2018.

require that high-activity waste go to a National Repository, leading to the need to separate low- from high-activity waste at Hanford. However, some felt that this difficulty could be overcome.

Others expressed support for the red line and optimism about meeting the 10% by volume (25% by activity) by 2018 deadline. Those who are more optimistic about the red line talked about recent progress towards design of a vitrification plant, the idea that vitrification is a proven technology, funding advances in the upcoming Federal budget, and DOE's seeming renewed commitment to effective management of the tank waste treatment program. Those supportive of the red line also talked about the need to hold DOE accountable to existing deadlines and to avoid a lengthy, costly, and delaying re-study of tank waste treatment issues.

As the conversation continued, the group began to talk about the ability (or inability) to allow for reassessment of certain elements of the red line approach (e.g., scale of a vitrification plant) without opening the door to reassessment of all elements of the current approach to tank waste treatment (e.g., whether vitrification or some other technology should be used in the first place). The group began to converge around the need to stay on at least some parts of the current red line path, to keep up momentum for tank waste treatment and avoid delays. At the same time, Director Fitzsimmons acknowledged Ecology's understanding of the real risks of failure associated with the red line. The group discussed the need to use the red line to get started and build momentum but, at the same time, to maximize the flexibility available along it and leave room to adjust if it appears the red line, as currently constructed, will fail.

The group had a similar conversation about whether the 2028 deadline for completion of treatment of all tank waste is achievable or wise. Some expressed support for the green line and talked about the 2028 deadline as an important way to create pressure for technology innovation and political will to fund tank waste treatment. Other expressed concern that the green line, like the red line in their belief, is not achievable and that continuing along the green line path will result in another failure to achieve adequate funding for tank waste treatment.

As with their discussion about the red line, in their discussion of the green line, the group struggled to balance the need to hold DOE accountable for real tank waste treatment progress with the need to provide for adjustments to treatment approaches, and the timing and scale of treatment activities, to accommodate the realities of funding limitations and emerging technologies. This struggle was especially difficult for those in the group who are concerned that neither the red line nor the green line are technically achievable or politically fundable, and are therefore guaranteed to fail. There was widespread concern that signaling too much flexibility in tank waste treatment deadlines and approaches would be used as an excuse for further delays and re-study of tank waste issues. For some, any flexibility in tank waste treatment deadlines seemed like too much.

The group continued to struggle with these difficult issues in the context of the red line and the green line approaches to tank waste treatment. While no consensus was reached, the group did begin to converge around the need to drive tank waste treatment with some aggressive, firm, enforceable deadlines. At the same time, the group also converged around the need to balance firm, enforceable deadlines with vigilant analysis for early warning signs of failure, so expectations and approaches along either the red line or the green line could be adjusted to avoid failure. (The group talked about this as "seeing stupid coming and maneuvering around it.") There was a strong sense that the Hanford cleanup must not have another tank waste treatment failure.

The group also began to converge around characteristics of the relationship between the red line and the green line approaches. There was a strong sense that choices about tank waste treatment made along the green line should not automatically be the same as choices made along the red line. The group talked

repeatedly about the need to apply lessons learned to date, and lessons that will be learned as Ecology moves forward towards treatment of 10% of tank waste by volume (25% by activity) by 2018 (the red line), to decisions about treatment of the remaining 90% of tank waste by 2028 (the green line). Similarly, there was a strong sense that work to make progress along the green line should start immediately; that it should not wait until the outcome of the red line approach is clear.

As they talked about Ecology's current two-part approach to treatment of tank waste, the group returned again and again to the related need to protect the public and Hanford workers from risks posed by waste awaiting treatment. Many in the group warned against an exclusive focus on tank waste treatment at the expense of tank farm safety and infrastructure and emphasized the need to include tank farm safety and infrastructure in the context of tank waste treatment. Director Fitzsimmons acknowledged both the importance of these issues and the need to view tank waste treatment as connected to tank farm safety and infrastructure. The group talked about the need to think in a holistic way, especially about the green line approach to tank waste treatment, and to include in considerations of the green line all aspects of protecting public health and safety against risks from tank waste.

Finally, the group discussed the use of consent decrees instead of the Tri-Party Agreement. Ecology's current approach is to use a consent decree, rather than the Tri-Party agreement, to establish and enforce deadlines along the red line. The group had many questions about the mechanics and implications of consent decrees. Director Fitzsimmons explained that consent decrees are in some ways arguably stronger than the Tri-Party Agreement enforcement provisions, because consent decrees are enforced by a judge who would, for example, have the authority to hold DOE officials in contempt of court if deadlines are missed. Director Fitzsimmons, with Mr. Gearheard from EPA Region 10, further explained that consent decrees also have down sides; among them, that since consent decrees are entered into between the State of Washington and the Federal government, they can affect the dynamic between Ecology and EPA. The EPA then becomes a part of the unitary Federal executive. Both Director Fitzsimmons and Mr. Gearheard expressed a willingness to take what steps they could to mitigate the down sides of consent decrees.

Many in the group expressed support for consent decrees as a way to potentially implement "radical" remedies if DOE misses deadlines. Some in the group were especially interested in the potential of holding DOE officials in contempt of court and, potentially, placing them in jail. Others expressed interest in the potential for asking the court to bring in a new Federal agency to oversee tank waste treatment should DOE fail to meet deadlines. At the same time, some in the group expressed doubt that enforcement of deadlines in consent decrees would be any different from traditional enforcement under the Tri-Party Agreement (currently generally limited to imposing new deadlines and assessing modest penalties). The group also discussed that using consent decrees doesn't guarantee any particular approach to enforcement, since the court has the discretion to agree with and impose the relief and sanctions Ecology might suggest or to impose alternative relief and sanctions. The group also discussed the need to carefully manage the State/EPA relationship when consent decrees are used, to ensure EPA can continue to participate with Ecology as a full partner in the Hanford cleanup.

At this point, Director Fitzsimmons had to leave the meeting to fulfill other commitments. Before he left, Director Fitzsimmons again thanked the group for their time, candor and insights. He thanked the group especially for their willingness to participate in a real dialogue on tank waste treatment issues and to accept being challenged on their range of views and opinions as a way to further both their understanding of the context of Ecology's current approaches to tank waste treatment and Ecology's understanding of stakeholder and Tribal interests.

### **Discussion of January 15, 2001 Contracting Deadline**

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Next, the group had a candid discussion about the deadline to establish a new contract for treatment of the first 10% of tank waste by volume (25% by activity). This deadline is January 15, 2001; Ecology is adding the January 15 deadline to the existing consent decree on interim stabilization of tank waste. In essence, the January 15, 2001 contracting deadline is the first step along the red line. (As described earlier, the red line refers to Ecology's approach to require vitrification of 10% of tank waste by volume (25% by activity) by 2018.) Ecology Nuclear Waste Program Manager Mike Wilson talked about two possible failures to meet the January 15 deadline: (1) no contract at all on January 15; or (2) an unacceptable contract on January 15. Mr. Wilson explained that a contract would be unacceptable to Ecology if it did not include appropriate interim milestones and an appropriate schedule for the red line approach. In case of either type of failure, Mr. Wilson explained that Ecology would go to the judge who issued the consent decree and ask for appropriate relief. At this time, it is not clear what exact type of relief Ecology would request – they could request a new deadline, imposition of penalties, or stronger sanctions.

Some stakeholders expressed skepticism that a contract could be signed by January 15, given the amount of work to be done and the individuals at DOE HQ who would need to concur with a contract award. Mr. Wiegmon, from the Office of River Protection, explained that DOE has been involving all of the necessary people from DOE HQ in all contracting activities and has arranged for DOE HQ officials to be available at the DOE Richland offices to expedite review of proposals and contract award. He reiterated DOE's commitment to having a new contract in place by January 15, and explained that DOE has a "bridge" contract in place with CH2M so that design work necessary to meet the red line deadlines will continue no matter what. Some stakeholders believe it is critical to get a new, signed, contract in place before an Administration change at the Federal level.

Some stakeholders expressed interest in the types of relief Ecology might seek if the January 15 deadline is missed and questioned value of consent decree over the Tri-Party Agreement if Ecology is not quickly willing to seek "radical remedies." For example, some stakeholders expressed interest in Ecology requesting that the court hold officials at DOE in contempt for missing deadlines; other stakeholders expressed interest in Ecology asking the court to consider whether DOE remains the right agency to carry out the Hanford cleanup. In discussing radical remedies, some stakeholders cited Ecology's ability to regulate mixed waste in Washington State and observed that prohibiting shipment of any mixed wastes (e.g., US Navy reactor waste) to Hanford would bring public and Congressional attention to Hanford cleanup issues very quickly. Ecology indicated that this possibility has been considered, but that, so far, action has not been taken in that area.

### **Discussion of the Continued Use of the 1993 Values and Principles**

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The group moved on to discuss whether the 1993 Values and Principles continue to represent good advice for Ecology. There was the strong sense that the 1993 Values and Principles remain essentially on point and continue to represent good advice to Ecology. There was also the strong sense that part of what makes the Values and Principles endure is the public process that was used to create them. The group talked about the open, candid conversation between stakeholders, Tribes and Ecology used to create the 1993 Values and Principles as being fully as important and "valuable" as anything that was eventually written down.

The group talked specifically about a number of Values or Principles that seem particularly relevant to the present tank waste treatment situation, including:

- The continuing need to emphasize “get on with it” as a primary value and the need to make real “on the ground” progress towards tank waste treatment as soon as possible.
- The continuing need to emphasize the “get started using available technology” value. The group talked about the need to apply this value to both pre-treatment and vitrification choices and to consideration of new and emerging technologies as they become available. The group also discussed the need for DOE and Ecology to provide timely, candid information on why certain technologies are being considered or not being considered so the public can understand and be involved in technology choices.
- The continuing need to emphasize the value that the size or timing of a National repository should not drive tank waste treatment decisions.

The group also talked about a number of refinements and additions that might be made to the Values and Principles including:

- Developing a value or principle around the need to consider availability of funding when making tank waste treatment decisions; for example, the need to base decisions about the size of a vitrification plant and the timing of treatment on realistic funding projections and to conduct design for cost exercises. Some in the group expressed concern about this idea and suggested instead that DOE, EPA and Ecology should request all of the funding needed to keep current tank waste treatment schedules, and not signal willingness to accept less. Most agreed on the need, at least, to be aware of cost and funding issues as tank waste treatment decisions are made.
- Developing a value or principle around the need to identify specific challenges to meeting tank waste treatment goals and schedules and to then make adjustments to meet these challenges.
- Developing a value or principle around the need to avoid making “the perfect the enemy of the good enough.”
- Developing a value or principle around the need to consider and make decisions about the “end state” for the tank farms, and the Hanford 200 Areas generally, and to use end state considerations to inform decisions about tank waste treatment.
- Developing a value around the need to use a stronger word than “cleanup” to communicate more explicitly with the general public and Congressional representatives about the risks from Hanford tanks – with a belief that understanding these risks more completely will prompt additional funding. Some in the group expressed concern about taking this approach too far and giving the impression that the Tri-Cities are unsafe.
- Shifting the emphasis within the 1993 Values and Principles away from values and principles designed to help make decisions about technical problems (e.g., pretreatment) and towards values and principles designed to help make progress around political issues (e.g., the political will to fund a treatment plant).
- Updating the “systems design” value to a “systems project” value, so it addresses both the red line and the green line and the correspondence between them.

As they talked about the 1993 Values and Principles, some in the group expressed concern that mid-level and line managers with DOE and Ecology no longer seemed concerned (or afraid) regarding personal liability if milestones were missed. Others expressed belief that managers were still focused on meeting deadlines whether or not they have personal liability. Still others warned against neglecting vital safety expenditures if too many resources are shifted to meeting remediation milestones. The group also talked about the history of failures at attempting to begin tank waste treatment and the legacy of “failed contractors” this has created. The group was concerned about this given the limited number of companies and qualified personnel able to design, build and operate tank waste treatment technologies. The group talked about the potential need to consider, if appropriate, building contractor credibility.

Finally, the group talked about whether the 1993 Values and Principles had been adequately followed by Ecology, EPA and DOE. Many in the group reiterated that the 1993 Values and Principles, along with other advice from stakeholders and Tribes given through the Hanford Advisory Board (e.g., advice on privatization), have proven to be good advice, which was often ignored. The group talked the possibility of Ecology presenting a yearly accounting of how the Values and Principles have been carried out, including any areas or issues where Ecology might be having trouble applying/conforming with the Values and Principles.

### **Discussion of On-Going Dialogue Between Stakeholders, Tribes and Ecology**

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Late in the day, the group turned to a discussion about communication and the need to maintain an on-going dialogue between stakeholders, Tribes and Ecology. At the start of this conversation, the group acknowledged that a more full discussion of communication issues should more appropriately take place in the context of the Hanford Advisory Board meetings. There was agreement around the need to update the larger group of stakeholders and Tribal representatives, including people who could not be at today’s meeting, and to include them in future discussions.

The group then talked about three types of communication:

- Communication, like today’s meeting, with involved, informed interest groups, stakeholders and Tribes (termed “inside baseball”);
- Communication to inform/involve the general public; and,
- Communication to create the capacity for political will/action.

The group discussed need for passion in communications. Some expressed concern that many DOE officials do not seem to have any passionate outrage about tank waste treatment needs or funding. The group talked about the need to use passionate outrage to involve and inspire the general public as well as stakeholder groups and Tribes who are already involved. As part of this conversation, the group also talked about the need to have officials (and others such as workers) with both knowledge and passionate outrage involved in communications, both with general public and with Congressional representatives.

As part of this conversation, the group talked about the need to begin to create new types of communication messages about tank waste treatment: messages that will inspire and involve more people in tank waste treatment decisions and that will create the political will necessary to achieve adequate funding for treatment.



The group talked about the need to keep stakeholders and Tribes informed and involved in real time as tank waste treatment issues play out. The group talked about using the principle of “no surprises” and about scheduling meetings, including quarterly updates, at times and locations that are convenient for stakeholders and Tribes.

The group had a long conversation about the need to create an atmosphere for real back and forth dialogue between Ecology, DOE, and stakeholders and Tribes and to avoid one-way presentations and posturing. The group talked about the need to build trust between stakeholders, Tribes, DOE and Ecology for dialogue to be candid and to reduce posturing. The group talked about Ecology and DOE helping to build this trust by always “closing the loop,” so stakeholders and Tribes are confident that their views have been heard and understand the reasons their views were accepted or rejected by the agencies. The group acknowledged that this type of dialogue requires a large investment of time and attention from the agencies, stakeholders and Tribes.

As part of their conversation about building trust, the group also talked about the need to find opportunities to express appreciation for those, especially those within DOE, who succeed at meeting deadlines or who make other critical contributions towards tank waste treatment. The group also talked about the need to understand and respond to the different needs, interests, and styles of different stakeholder groups, and the need to be clear about what type of involvement or feedback is needed before going out to the general public.

Finally, the group talked about the need for intergenerational transfer. Many of the people currently representing stakeholder groups have been involved with the Hanford cleanup since before 1993. Many in the group expressed concern that a number of stakeholders who were invited to the meeting did not attend. There was a strong sense of the need to involve and inspire the next generation of stakeholders. There was also a strong sense of the need to consider intergenerational transfer for workers and craftspeople at the site. Some in the group observed that the number of companies and individuals who can, or will, do nuclear work is shrinking and new companies and young people are less and less interested in pursuing careers in nuclear trades. The group discussed using a nuclear trades apprenticeship program and presenting the Hanford cleanup as an environmental restoration model, applying technologies that can then be exported all over the world to encourage young people to consider careers in nuclear trades.

## **Wrap Up**

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Ecology Nuclear Waste Program Manager Mike Wilson wrapped up the meeting by thanking stakeholders and Tribal representatives for their time and candor.

While the purpose of the meeting was not to reach conclusion or consensus about any tank waste treatment issues, Mr. Wilson expressed appreciation that the group seemed to begin to converge around many of the difficult and critical tank waste treatment issues, including:

- The continued usefulness of the 1993 Values and Principles as good, relevant advice for Ecology, EPA and DOE.
- The critical need to protect public health and safety (including worker health and safety) from risks from waste remaining in tanks even as progress towards treatment continues.

## Summary – October 26, 2000 Meeting on Hanford Tank Waste Treatment

- The critical need to build the political will necessary to secure adequate funding for tank waste treatment; current funding estimates require at least one billion dollars per year.
- The need to “get started” and show real, on-the-ground progress towards treatment as soon as possible.
- The need to strike a smart balance between holding DOE accountable to tank waste treatment deadlines and providing the room to adjust tank waste treatment approaches to avoid failure.
- The need for a full, candid, meaningful ongoing dialogue with stakeholders and Tribes on tank waste treatment issues and decisions; and the need to also involve and inspire the general public to participate in tank waste treatment issues and decision.

Ecology will continue to use the 1993 Values and Principles and consider the advice and insights offered at this meeting as they work to negotiate the near-term details of tank waste treatment activities and deadlines. After the amendment to the existing Hanford Consent Decree is signed to add the January 15<sup>th</sup> 2001 contract deadline, Ecology will distribute copies to all interested stakeholder groups and Tribal Nations.

Mr. Wilson ended the meeting by looking forward to a continuing, and expanded, dialogue on tank waste treatment issues, though existing avenues for public involvement (e.g., the Hanford Advisory Board) and other means as necessary.

## **Attachment One: Attendees**

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### **Attendees:**

Mike Wilson, Washington State Department of Ecology  
Steve Wiegman, US Department of Energy Office of River Protection  
John Erickson, Washington State Department of Health  
Dave Rowland, Yakima Nation  
Wade Riggsbee, Yakima Nation  
John Stanfill, Nez Perce Tribe  
Robin Klein, Hanford Action of Oregon  
Mary Lou Blazeck, Oregon Office of Energy  
Mike Grainey, Oregon Office of Energy  
Doug Huston, Oregon Office of Energy  
Pam Brown, Richland  
Elizabeth Tabbutt, League of Woman Voters  
Jim Trombold, Washington Physicians for Social Responsibility  
Todd Martin, Washington Physicians for Social Responsibility  
Ruth Yarrow, Washington Physicians for Social Responsibility  
Paige Knight, Hanford Watch  
Dave Watrous, Tri-Cities area local businesses  
Robert Larson, Port of Benton County  
Leon Swenson, Hanford Advisory Board, public at large  
Keith Smith, Hanford Atomic Metal Trades Council  
Ken Bracken, Benton County  
Mike Gearheard, US Environmental Protection Agency Region 10  
Tom Fitzsimmons, Washington State Department of Ecology

### **Invited but unable to attend:**

Gerald Pollett, Heart of America Northwest  
Tom Carpenter, Government Accountability Project  
Gordon Rogers, Tri-Cities Technical Council  
Greg deBruler, Columbia River United  
Harold Heacock, TRIDEC  
Jerry Peltier, Mayor of West Richland  
Mark Beck, Citizens for a Cleaner Eastern Washington  
Merilyn Reeves, Hanford Advisory Board, chair  
Norma Jean Germond, Hanford Advisory Board  
Richard Berglund, Central Washington Building Trades Council  
Shelly Cimon, Oregon Hanford Waste Board  
Susan Leckband, Hanford Advisory Board  
Tim Takaro, University of Washington  
Bill Burke, Confederated Tribes of the Umatilla  
Russell Jim, Yakima Nation

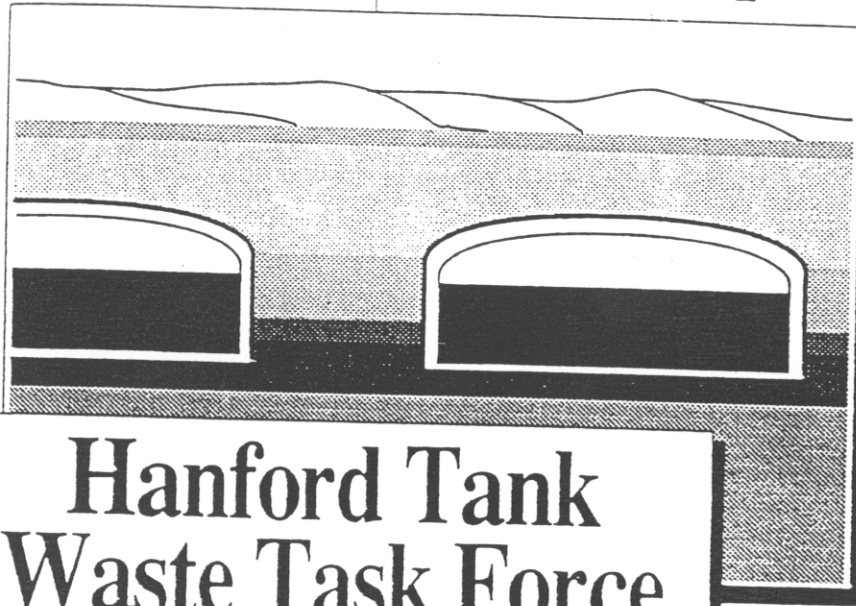
## **Attachment Two: Main Themes from Interviews**

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Before the tank waste treatment workshop, staff from Ross & Associates interviewed invited participants and personnel from the US Department of Energy and the US Environmental Protection Agency Region 10. Information gathered during the interviews was used to inform the workshop agenda. The following themes emerged from the interviews:

- The 1993 Values and Principles are still good advice for Ecology.
- Must “get on with it;” get started; make progress; avoid providing opportunity for delay.
- Vitrification is the right technology; should vitrify all tank waste; although, there was a great diversity of views about whether the type of vitrification technology currently under consideration is the right technology, whether there should be one technology or many and the scale of a vitrification plant.
- Strong frustration/anger, mostly directed at the US Department of Energy for on-going delays and lack of progress; some directed at Ecology and at the US Environmental Protection
- Must find a way to secure adequate funding for the vitrification plant.

# Final Report



## Hanford Tank Waste Task Force

Submitted to:

Washington State Department of Ecology  
U.S. Department of Energy  
U.S. Environmental Protection Agency

Submitted by:

The Hanford Waste Task Force, 1993

September, 1993

# **CHAPTER 1**

## ***Principles for the Tri-Party Agreement Package***

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### **INTRODUCTION**

This chapter sets forth the principles that the Hanford Tank Waste Task Force developed to help guide the Tri-Party Agreement negotiations. Principles in this case are defined as values that should be applied to the overall agreement being negotiated, not just the Tank Waste Remediation System. These principles were developed in small group and plenary sessions and were approved by consensus of the Task Force at its final meeting on September 9.

The principles have been organized into the following four categories:

- I. The Tri-Party Agreement as a Whole
- II. The Agreement as a Management Vision and Tool
- III. The Agreement and its Effect on the Environment
- IV. The Timing of Actions in the Agreement

### **I. THE TRI-PARTY AGREEMENT AS A WHOLE**

The Tri-Party Agreement is in need of strengthening and improvement. The negotiations should identify and remedy those areas that need this strengthening and improvement. The resulting agreement should be enforceable, it should be legally binding, and it should contain milestones or other measures of accountability that are achievable and enforceable.

The U.S. Department of Energy should comply with all environmental laws. The Tri-Party Agreement should not be a shield against enforcement of other laws.

The Tri-Party Agreement should acknowledge and preserve existing treaty rights.

The Tri-Party Agreement, and the actions of the three parties, should increase meaningful public and tribal involvement in all key Tri-Party Agreement decisions with the public and tribes as a partner in the goals, scope, pace, and oversight of the cleanup. The process of involving a Site-Specific Advisory Board in ongoing oversight of the Agreement and of improving public involvement is essential to achievement of successful and satisfactory cleanup. The Tri-Party Agreement should explicitly incorporate a positive role and timelines for the establishment of a Site-Specific Advisory Board and should express support for its involvement in key decisions and oversight of timelines of the Agreement.

The Task Force expects that the renegotiated Tri-Party Agreement will be implemented. It is

## *CHAPTER 1 Principles*

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an obligation of USDOE, and an obligation of the State of Washington and EPA to assist USDOE, to secure the necessary funds to achieve cleanup and priorities as renegotiated in the Tri-Party Agreement. Funds not expended because of the delay of some Tri-Party Agreement milestones during these negotiations should be used for the cleanup and not lost due to the delay caused by the negotiations.

Tri-Party Agreement milestones should be considered an obligation of the federal government. USDOE is bound to seek funding from Congress to meet the milestones. Milestones should provide methods of assessing performance that are meaningful, measurable, and understandable.

## **II. THE AGREEMENT AS A MANAGEMENT VISION AND TOOL**

The Tri-Party Agreement should accelerate the process of continuous improvement in the management and operation of the Hanford site. It is imperative that specific means and measures be developed that advance the changes needed to achieve effective cleanup of Hanford. In particular, two things stand out:

- The Hanford workforce should be fully informed of hazards and should have the freedom to speak without fear of retribution on safety and environmental concerns. Responsive mechanisms to make this possible should be created.
- The Hanford workforce should be empowered to participate in and contribute to the improvement of the cleanup's efficiency and accountability.

The future Site-Specific Advisory Board should be asked to give these issues attention.

The Agreement should incorporate the necessity of adequate training of the Hanford workforce, including subcontractors, so that cleanup can be accomplished safely, on time, and within budget. This training should include emergency response measures as well.

Emergency management that involves local communities, the tribes, and the states should be done in partnership.

The Agreement should promote a sense of partnership and cooperation and should encourage imagination to solve problems that arise because of regulatory complexity, jurisdictional problems, or technical difficulties and other barriers to progress.

The Agreement should establish a way to demonstrate accountability to the public for the expenditure of funds during the cleanup. This includes planning, year-to-year budgets, and actual expenditure of funds for specific projects or activities.

The Agreement should drive the use of the most practicable, timely, available technology, while leaving room for future innovation. The Agreement should establish a folio of technological options and cause strategic investment over time to support a limited number of promising options. The Agreement should not promote further research on unlikely options. When a better option becomes known through an open and credible systems design and R&D process, it should be incorporated. To both update the folio and to assess the

viability of options, a periodic technical review should be conducted that includes the Site-Specific Advisory Board, the public, and the Hanford workforce.

Once cleanup actions and associated milestones are established, the Tri-Party Agreement should direct the parties to implement programs in ways that contribute to the community's economic transition initiatives and mitigate adverse socioeconomic impacts.

### **III. THE AGREEMENT AND ITS EFFECT ON THE ENVIRONMENT**

The Agreement should reflect the following principles regarding the impact of cleanup on the environment:

- Minimize the use of land for waste management.
- Avoid contamination of uncontaminated land.
- Avoid further harm to cultural resources, natural resources, and the environment, especially critical habitat and groundwater.
- Protect the Columbia River: Stopping the actual and potential future contamination of the Columbia River and preventing the migration of contamination off-site should be a high priority.
- Do not depend on the dilution of effluent wastes to effect safe conditions in the environment or to avoid legal discharge limits.
- Accomplish conservation and reuse of resources (including reuse of contaminated resources which could potentially be classified as waste or an allowable effluent).
- Recognize the importance of preserving the biodiversity of the Hanford site and the Columbia River.
- Natural Resources Damage Assessments under CERCLA should be integrated in a timely manner with the accomplishment of appropriate Tri-Party Agreement milestones so as to minimize overall restoration costs.
- Preserve natural resource rights embodied in treaties, and enforce laws protecting natural and cultural resources.
- Include CERCLA-like risk assessments for natural and cultural resources in environmental restoration/waste management actions and all other site activities.

### **IV. THE TIMING OF ACTIONS WITHIN THE AGREEMENT**

The Agreement should demonstrate that the three agencies are getting on with the cleanup. Progress on substantive cleanup priorities should be reflected in the Agreement, not just procedural milestones. After reasonable study, the three parties should select simpler, less costly solutions and get on with cleanup.

The Agreement should enable the public, the agencies, and the workers to see the end of the cleanup, if not predict its exact date.



## CHAPTER 2

### Values

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#### INTRODUCTION

The Hanford Tank Waste Task Force was charged with identifying values that its members hold relative to the Tank Waste Remediation System and to supply those values to the lead negotiators for USDOE, EPA, and Ecology as the three parties renegotiated aspects of the Tri-Party Agreement. This product reflects the values of the members of the Task Force. Members of the Task Force were chosen because they represent a broad cross-section of local and regional constituency groups with a strong interest in the success of Hanford's cleanup.

This Chapter presents a Summary of Task Force Values. The reader is also urged to consult Appendix F. This Appendix describes the process by which the Task Force learned about tank waste issues and then, as individuals and in small groups, identified key problems and values associated with the Tank Waste Remediation System. Task Force members believe that the problems they identified relative to tank waste ("Problem Statements" in the Appendix) are essential to understanding Task Force values because they ground the values in Hanford's current realities, and the values and Problem Statements should be reviewed in conjunction. Summaries of the members' Individual Perspectives and of their small group discussions are included in this Appendix as are the individual worksheets that Task Force members completed.

#### SUMMARY

##### 1. Broad, Overarching Issues

- Protect the environment.
- Protect public/worker health and safety.
- "Get on with the cleanup" to achieve substantive progress in a timely manner.\*
- Use a systems design approach that keeps endpoints in mind as intermediate decisions are made.
- Establish management practices that ensure accountability, efficiency, and allocation of funds to high priority items.

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\* For elaboration on this value, see Specific Implementation-Related Values under *Timing*.

## 2. Specific Implementation-Related Values

### *Timing*

- "Get on with the cleanup" to achieve substantive progress in a timely manner. Get on with it reflects a sense of urgency of purpose and a desire to see the cleanup move forward productively as quickly as possible.
- An action is "getting on with it" when it:
  - 1) contributes to environmental remediation and waste containment, stabilization, storage, and disposal in safe form;
  - 2) demonstrates on the ground progress as quickly as possible. For Tank Waste Remediation System, this means addressing tank safety, characterizing tank waste, upgrading tank farms, and preparing waste for stabilization. For all parts of the cleanup, this includes progress in protecting the Columbia River and its natural and cultural resources, groundwater, and human health;
  - 3) empowers safe operations and worker participation in quality implementation;
  - 4) reduces paperwork, analytic, and decision-making redundancy; and
  - 5) is less costly than other options while still protective of the environment and public/worker health and safety.
- The sum total of actions taken to "get on with it" should:
  - 1) move all major facets of the cleanup forward and in the proper sequence;
  - 2) keep technical options open that have realistic, cost-effective chances to significantly improve waste management practices over the life of the cleanup and appropriately implement these options; and
  - 3) consider the ability to evaluate, expand upon, or change course based on technical and scientific advancement.

### *Management*

- Use a systems design approach that keeps endpoints in mind as intermediate decisions are made.
- Establish management practices that ensure accountability, efficiency, and allocation of funds to high priority items.

### *Tank Leaks*

- Characterization is highly important but not the only priority. There are immediate health and environmental risks that need to be addressed. Infrastructure upgrades are important. We need to make progress on all fronts at once.
- Double-shell tank capacity is important; simpler solutions are preferred.
- Address leaking tanks, and prevent additional leaks without further compounding future remediation efforts. It is important to recognize that preventing new leaks and taking action now (as described below) are two different issues.

- The Tank Waste Remediation System is, in part, designed to resolve tank leaks. There are available, more cost-effective solutions than extended pretreatment/vitrification studies; i.e., double-shell tank capacity ("no monuments" - use existing technology for new tanks) and, possibly, barriers.

#### *Technology*

- The high cost and uncertainty of high-tech pretreatment and R&D threatens funding for higher performance low-level waste form, vitrification, and cleanup.
- Use the most practicable, timely, available technology, while leaving room for future innovation. Keep a folio of technological options and make strategic investments over time to support a limited number of promising options. Give up further research on unlikely options. When a better option becomes known through an open and credible systems design and R&D process, be willing to adopt it.

#### *Waste Form and Storage*

- Put wastes in an environmentally-safe form, using retrievable waste forms when potential hazards from the waste may require future retrieval and when retrievability does not cause inordinate delays in getting on with cleanup.
- Let the ultimate best form for the waste drive decisions, not the size nor timing of a national repository.
- Accept the fact that interim storage, at least, of the waste in an environmentally-safe form will occur for some time at Hanford. Select a waste form that will ensure safe interim storage of this waste. In so doing, do not attract other sites' waste for disposal or long-term storage at Hanford.

#### *Transportation*

- Minimize transportation of radioactive and hazardous materials to and from the site to reduce the risks to the public and the environment; evaluate decisions in light of how much and what materials will be used in the course of the cleanup because of potential consequences for communities along the transportation corridor.
- Assume treatment of Hanford's waste will occur on site; it is not productive to study transportation of Hanford's waste off-site for treatment.

#### *Training*

- Training for everyone who will be on the site is critically important.

## Attachment Four: Tank Waste Treatment Chronology

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### Washington State Department Chronology of Hanford Tank Waste Treatment *"Trail of False Starts"*

Stakeholder Workshop  
October 26, 2000




#### First Treatment Try (HWVP)

- **November 1989** DOE awards a \$550 million construction contract to begin building a high-level waste vitrification plant.
  - TPA schedule calls for construction work to begin in July 1991 and plant operations to begin in December 1999 for HLW, 14 vaults for LAW grout to be constructed by 1994.
  - HLW to be vitrified, LAW to be grouted, pretreatment to be in B plant, and only applies to double shell tank waste
- **March 1990** Westinghouse Hanford officials say detailed design is underway and construction of the vitrification plant is on schedule to start in July 1991.
- **August 1990** Energy Assistant Secretary Leo Duffy tells a Senate Committee that DOE is re-evaluating its schedule for a high-level waste vitrification plant at Hanford.
- **September 1990** Energy Assistant Secretary Leo Duffy tells state officials that tank safety issues may delay construction and operation of a vitrification plant to treat Hanford's tank wastes.
- **December 1990** Hanford Manager John Wagoner notifies Ecology in writing that technical and programmatic concerns may delay the start of construction of the vitrification plant.

## First Treatment Try (HWVP)

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  - **January 1991** Energy Secretary Watkins, in a letter to Washington Governor Booth Gardner and EPA Regional Administrator Dana Rasmussen, announces plans to delay major Hanford clean-up projects. The delays of two years or more affect the vitrification plant and a pre-treatment plant. Governor Gardner threatens a lawsuit.
  - **March 1991** A Westinghouse Hanford official says the delay in the high-level vitrification plant may be significantly longer than two years. Technical, safety and budget issues are blamed.
  - Ecology Director Christine Gregoire asks for help from the state's Congressional delegation to get DOE to drop plans to use B Plant for tank waste pre-treatment. B Plant can never comply with hazardous waste laws.
- 
  - **April 1991** Ecology and EPA officials write to Hanford Manager John Wagoner, rejecting DOE plans to delay construction of a high-level waste vitrification plant. The regulators did agree to delays in pumping liquids from the single shell tanks because of safety issues.

## First Treatment Try (HWVP)

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  - **May 1991** Agreement is reached on revisions to the Tri-Party Agreement. They are the first changes since the agreement was signed two years ago.
    - Among the major changes – the start of construction of the vitrification plant will be delayed by 10 months to April 1992, but the operational date of December 1999 remains the same; and up to four new double shell tanks may be constructed to allow more flexibility in handling high-level waste.
- **June 1991** A GAO report says DOE should cancel \$609 million in projects designed to make B Plant a waste treatment facility.
    - The report says B Plant does not meet today's regulatory standards and the state is unlikely to waive these standards.
- **November 1991** An internal DOE study suggests delays in Hanford's high-level waste vitrification plant may be unavoidable.
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  - **December 1991** DOE drops plans to use B Plant for pretreatment of Hanford's tank waste.
- 
  - **May 1992** Groundbreaking ceremonies are held to mark the beginning of construction of a high-level waste vitrification plant.
- **September 1992** REV 2 of TPA revised LAW grout vault completion delayed until 1996, B plant for pretreatment dropped replaced with TBD, and HLW vitrification construction delayed to April 1992 with hot start still in 1999.
- **January 1993** DOE issues its newest five year cleanup plan, the final from the Bush Administration. The plan suggests it may be necessary to delay vitrification of Hanford's tank wastes.

## First Treatment Try (HWVP)

- **February 1993** DOE officials say they are considering several possible changes to the schedule to begin high-level waste vitrification at Hanford. One possible scenario will delay the process until 2020. Spend money and time up front to fund research now, don't remediate, now and implement better technologies down the road.
- **March 1993** A GAO report calls for delay in construction of the Hanford high-level waste vitrification plant and renegotiations of the Tri-Party Agreement.
  - The report says major technical problems exist in all parts of the tank waste cleanup program and unrealistic TPA deadlines may result in DOE spending billions of dollars on a plant that could sit idle for years.



**March 1993** DOE, EPA and Ecology agree to at least a six month delay in the start of construction on the high-level waste vitrification plant. The revision to the Tri-Party Agreement also includes a provision that about half of the site will be cleaned up by October 1994.

## Second Treatment Try (Big HWVP?)



**1993** The Hanford Defense Waste EIS indicates that the waste from the single shell tanks must also be retrieved and treated. This means that the treatment facilities will have to be much larger and/or operate for longer.







**October 1993** DOE abandons the grout program for LAW waste despite already spending 200 million dollars. This means a first of a kind LAW vitrification facility must be built and must be magnitudes larger (200 ton/day) than the HLW vitrification facility.





**October 1993** DOE, EPA and Ecology complete renegotiations of the Tri-Party Agreement. The renegotiations allows for a delay in constructing the vitrification plant, the addition of a HLW vitrification plant for low-level waste, and extends overall cleanup by ten years. It sets a new target date of 2028 to complete all vitrification of tank waste. The revisions also escalate actions to treat contaminated groundwater.

- Leads to Rev 3 of the TPA on January 1994. The M01-M03 milestones become M50, S1 and M60 milestones.
  - Pretreatment for LAW construction 11/1998 and operational by 12/ 2004
  - Pretreatment for HLW construction in 6/2001 and operational by 6/2008
  - HLW vitrification construction delayed to 6/2002 and operational in 12/2009
  - LAW vitrification construction 12/1997 and initial operations by 6/2005




### Third Treatment Try (privatization)

-  **December 1993** A Massachusetts-based consortium (Environmental Cooperation of America) proposes to DOE to construct a privately funded high-level waste vitrification plant at Hanford. The plant would be a replica of plants used in France. The consortium says it would spend more than \$1 billion, and DOE would pay only after waste is glassified.
- **August 1994** DOE announces it is seeking letter of interest from corporations interested in managing, processing and disposing of Hanford's tank waste. DOE officials say they are simply trying to determine level of interest.
- **September 1994** DOE says designs of six new double shell tanks are nearly complete and construction should begin within a few months.
-  **February 1995** Westinghouse places contracts with seven companies to test a variety of technologies for vitrifying low-level waste "Bake -Off". Phase 1 successful later phases canceled. Also a HLW evaluation study was conducted.
-  **February 1995** Energy Secretary O'Leary says DOE plans to pursue privatization to vitrify Hanford's tank waste. Under the plan, DOE will offer a fixed price contract and will only pay for treated waste that meets DOE specifications. At least 14 companies have expressed an interest.
-  **May 1995** A consultant for the Hanford Advisory Board concludes DOE does not need any new double shell tanks. DOE had also determined they were not needed.




### Third Treatment Try (privatization)

- **September 1995** DOE announces it will proceed with tank waste privatization. A draft request for proposal will be issued in November. At least six companies have expressed strong interest in a program which DOE estimates will eventually cost \$40 billion to treat all the tank waste.
-  **November 1995** DOE releases its draft request for proposal to privatize treatment of Hanford's tank wastes.
- **February 1996** A National Academy of Sciences study suggests many Hanford tanks should be studied to see if wastes could be permanently stored in them. Barriers would be installed to protect the surrounding environment. The Academy did not recommend this as an action, but suggests it is deserving of further study.
-  **February 1996** DOE asks for bids to vitrify Hanford's tank wastes under a "privatization" contract. DOE is asking private companies to pay all up-front design, construction and operating costs without federal appropriations. They would get paid only when they have turned waste into glass. DOE's intent is for private industry to take on a large share of the risks of this incredibly complex and expensive project.
  - "In the past, the department has been long on promises and short on results in its efforts to solve the Hanford tank waste problem." Energy Secretary Hazel O'Leary. (DOE News Release, February 20, 1996).

### Third Treatment Try (privatization)


-  **April 1996** DOE and Ecology release a draft Environmental Impact Statement on cleaning up Hanford's tank waste. The preferred alternative is consistent with the Tri-Party Agreement, whereby under, the phased implementation approach, contractors will demonstrate pre-treatment and high-and low-level waste vitrification. Treatment facilities will then be expanded.
- **May 1996** Two firms submit proposals for the tank waste vitrification privatization project. The two teams are led by BNFL Inc. and Lockheed Martin Advanced Environmental Systems (LMAES)
-  **July 1996** Approved TPA change packages that adopts privatization into the TPA. HLW dates left alone but LAW treatment construction date deleted and hot start date is 2002 for the primary path and 2003 for the pre-agreed alternative path.
-  **September 1996** BNFL Inc. and LMAES are each awarded \$27 million fixed price contracts to begin defining the technical, regulatory, and business and financial elements needed for privatized tank treatment facilities.
- **February 1997** DOE releases a record of decision from the TWRS EIS favoring phased implementation approach which coincides with privatization as the process to treat Hanford's tank waste.
- **November 1997** After three years of arguing with Ecology and stakeholders, DOE confirms that leaked tank waste has reached groundwater. Two reports conclude leaked waste from five tank farms have reached groundwater.

### Third Treatment Try (privatization)


-  **January 1998** BNFL and LMAES submit their proposals for constructing and operating tank waste treatment and immobilization facilities.
-  **May 1998** DOE rejects LMAES bid for the vitrification privatization contract, saying its technical risk is unacceptably high. DOE continues to negotiate with BNFL.
-  **July 1998** A modification of the privatization approach occurs. No longer are the small pilot plants part of the path forward. DOE sends a report to Congress on its proposed contract with BNFL to begin vitrification of Hanford's tank waste. The proposal increases the cost and delays start-up, but the facilities will have much longer lives – 30 years instead of five to nine years – with more flexibility to expand over time. The goal was to treat 10% by mass by 2018.
  - The requirements of nuclear safety requires substantial structures so throw away plants are not achievable anymore. The estimated target price to build and operate high and low-activity waste plants is \$6.9 billion in 1997 dollars. The plants would begin glassifying wastes in 2006 or 2007 instead of the 2002 TPA date for LAW.
- **August 1998** Ecology officials announce that despite numerous concerns, they support the proposed Hanford tank waste glassification contract with BNFL Inc. Ecology wants guarantees in the Tri-Party Agreement that address those concerns.
  - DOE signs the contract with BNFL Inc. to convert Hanford's tank waste into glass. During the initial 24-33 month period, BNFL will complete 30 % of the facility design, obtain regulatory permits, and obtain financing.




## Third Treatment Try (privatization)

- **October 1998** A GAO report says the BNFL contract carries substantial financial risk for DOE.
  -  GAO is concerned about the idea of scoring more Budget Authority up front and the Budget Obligation later. GAO feels that the Congressional Budget Office will not support this key privatization need.
- **August 1999** Negotiations on setting new TPA milestones for tank waste treatment are suspended and expected to resume in mid-September at a higher level.
- **October 1999** Tank farm workers detect signs of corrosion on the inner wall of one of Hanford's double shell tanks. The corrosion consists of tiny pits, about 0.1 inch deep within the half-inch thick wall. The corrosion was found in tank AN-105.
- **January 2000** Tri-City legislators introduce a bill to exempt tank waste treatment facilities from local property taxes.
- **January 2000** Ecology Director Tom Fitzsimmons asks EPA to join with Ecology in developing and issuing a Final Determination relating to Tri-Party Agreement milestones for the tank waste treatment program. DOE and Ecology – after more than a year of negotiations – reached their January 31 deadline for concluding the negotiations without an agreement.



## Third Treatment Try (privatization)

- **February 2000** Congressional Budget Office (CBO) indicates it would not support the scoring of all the Budget Obligation later and some of Budget Authority now, which is what DOE needs for privatization (build now, federal government pay later). First failure documented point in Privatization
  -  CBO will score more Budget Obligation up front - which then makes staffers ask why pay for all this interest on borrowed money if we will need the Budget Obligation up front?
  - At this point, if not earlier, DOE could have considered alternative financing and contracting methods.
- **March 2000**
- Energy Secretary Richardson says DOE officials will meet with British investigators to explore BNFL's problems associated with falsifying documents related to the production of plutonium fuel. In addition to its work at Hanford, BNFL is also involved with nuclear waste cleanup at several other DOE sites.
- A coalition of watchdog groups asks Secretary Richardson to bar BNFL from any government contracts, including a contract to vitrify Hanford's tank wastes.


## Third Treatment Try (privatization)

-  **March 2000** Ecology Director Tom Fitzsimmons issues a "final determination" – setting milestones and enforcement policies for the construction and operation of tank waste treatment facilities. Fitzsimmons' action comes after more than 18 months of negotiations failed to reach a cleanup schedule that both the state and DOE could agree on.
  - The biggest disagreement was related to enforcement of the Tri-Party Agreement. The state wants to be able to take enforcement action as soon as it becomes clear that a milestone cannot be met, rather than having to wait for the milestone to actually be missed. This is especially important in the tank waste project when milestones for construction are several years apart. DOE had insisted they needed more flexibility to deal with unforeseen funding or technical problems.
  - Both sides agree on the basic schedule: DOE signs a contract with BNFL by August 31, 2000; construction begins by July 31, 2001; operation of the pre-treatment and vitrification facilities begins by December 2007; commercial production of the facilities begins by December 2009; and 10 per cent of the tank waste is to be treated by December 2018.
  - DOE Appeals the determination to the Pollution Control Hearings Board
- **April 2000** Washington Governor Gary Locke signs into law a bill which will exempt Hanford's planned tank waste treatment facilities from state property taxes. The action is expected to save an additional \$1 billion from the nearly \$7 billion project.


## Fourth Treatment Try

-  **April 2000** Second failure point for privatization. Cost estimates to build and operate facilities to immobilize Hanford's tank wastes may climb as high as \$13 billion – seriously jeopardizing the project. The previous cost estimate had been \$6.9 billion. BNFL officials say they are confident the construction and operating costs will be about \$6 billion. The cost of financing could increase the total costs to nearly \$13 billion. DOE and state officials are stunned by the new estimates.
  - DOE Deputy Secretary T.J. Glauthier says DOE is determined to keep Hanford's tank waste treatment project on schedule – despite indications BNFL's estimated cost to begin the project may have doubled to \$13 billion. DOE is studying potential backup plans to keep the project on schedule if BNFL's proposal is rejected.
  - BNFL's cost estimate to begin treatment and vitrification of Hanford's tank waste has escalated to \$15.2 billion. BNFL submits its formal contract proposal to DOE, admitting the price – based on 100 per cent private financing – is likely not affordable.
-  **May 2000** Energy Secretary Richardson announces he will terminate the BNFL privatization contract at Hanford for design, construction and operation of vitrification facilities to immobilize Hanford's high-level tank waste.
  - DOE officials say the action was taken because of the project's cost escalations and DOE concerns about BNFL's project management. DOE says BNFL's design work appears sound, and the project likely will use BNFL's designs.
  - DOE will seek new bidders and award a new contract by the end of the year to complete the design work and construct the facilities.
  - Glauthier said the privatization approach - will be totally or partly eliminated.

## Fourth Treatment Try

- **May 2000** DOE Secretary Bill Richardson meets with Governor Gary Locke and Attorney General Christine Gregoire in an attempt to keep Hanford's tank waste vitrification program moving forward.
  - Richardson agrees with the concept to amend a current consent decree to require DOE to meet milestones to replace BNFL, whose contract was terminated earlier in the week. Under this concept, DOE will agree to issue a request for proposal by August 2000 for a new contractor to design and construct Hanford's tank waste treatment facilities, and to award a contract by January 15, 2001.
- 
  - "Secretary Richardson assures us that the vitrification plant will be up and running in 2007, and that must be our focus." Washington Governor Gary Locke. (State of Washington News Release, May 10, 2000).
- **June 2000** Ecology levies a \$200,000 fine against DOE for failing to complete assessments of Hanford's double shell tanks. The Tri-Party Agreement required DOE to complete an integrity assessment by September 30, 1999 to determine the structural condition of the tanks. Ecology determined that DOE did not perform all the planned assessments.
  - In addition to the fine, DOE was ordered to completely examine the entire double-shell tank system by March 2006, with significant portions of the work to be completed by the end of this year. If work is completed on time, the penalty will be cut in half.

## Fourth Treatment Try

- **July 2000** An Environmental Protection Agency audit says delays in cleaning up Hanford's underground storage tanks greatly increase environmental risks. The audit says cleanup delays significantly increase the risk of leaks from the tanks into groundwater or air. The report criticizes cleanup regulators – the EPA and the Washington Department of Ecology, for failing to enforce cleanup deadlines.
- **July 2000** Office of River Protection makes its "Government Fair Cost Estimate" for tank waste treatment publicly available.
  - The government estimate to design, construct and operate tank waste treatment facilities totals \$9.512 billion, as opposed to BNFL's estimate of \$15.2 billion.
  - The "hard-cost" estimates for design, construction and commissioning of the treatment facilities (along with a contingency), is \$3.44 billion which is comparable to BNFL "hard cost" estimate. Three major facilities at about 1 billion dollars each.
- **July 2000** Dick French is removed as Manager of DOE's Office of River Protection, over disagreements with DOE Headquarters on issues related to authority over the program.
- **August 2000** Harry Boston, DOE Richland's Deputy Manager for Site Transition, is named manager of DOE's Office of River protection.
- 
  - **August 2000** DOE releases its final request for proposals to design, build and test tank waste treatment facilities. The proposal would delay the scheduled start of construction by about a year – to mid 2002 – but maintain the "hot start" date of 2007. Full operations could be delayed 13 months from 2009 to 2011.

## Fourth Treatment Try

- **August 2000** DOE removes two Hanford tanks from the Wyden Watch List. Tanks C-102 and C-103 were placed on the Watch List in 1990 because of concerns that a floating layer of organic material similar to kerosene could ignite and release radioactivity into the environment. Subsequent sampling and analysis determined the likelihood for that to occur is extremely unlikely. Twenty five tanks remain on the Watch List
  - Of the four safety issues on the Wyden Watch List all have been resolved but flammable gas.
- **September 2000** DOE and Ecology agree to a schedule for demonstrating retrieval technology from single shell tanks. DOE will conduct two demonstrations and one full scale retrieval by 2006.
- **October 2000** After four months, DOE and Ecology agree to modify a consent decree to require DOE to award a contract by January 15, 2001 to design and construct tank waste treatment facilities. Enforcement authority for this agreement will be under a federal district judge rather than through the Tri-Party Agreement.



## What Milestones Are Where -Now?

